Agenda item 5a

Austin WATER
Clearly Reliable

WTP4 – Jollyville Transmission Main

Monthly Briefing

Environmental Board

July 18, 2012

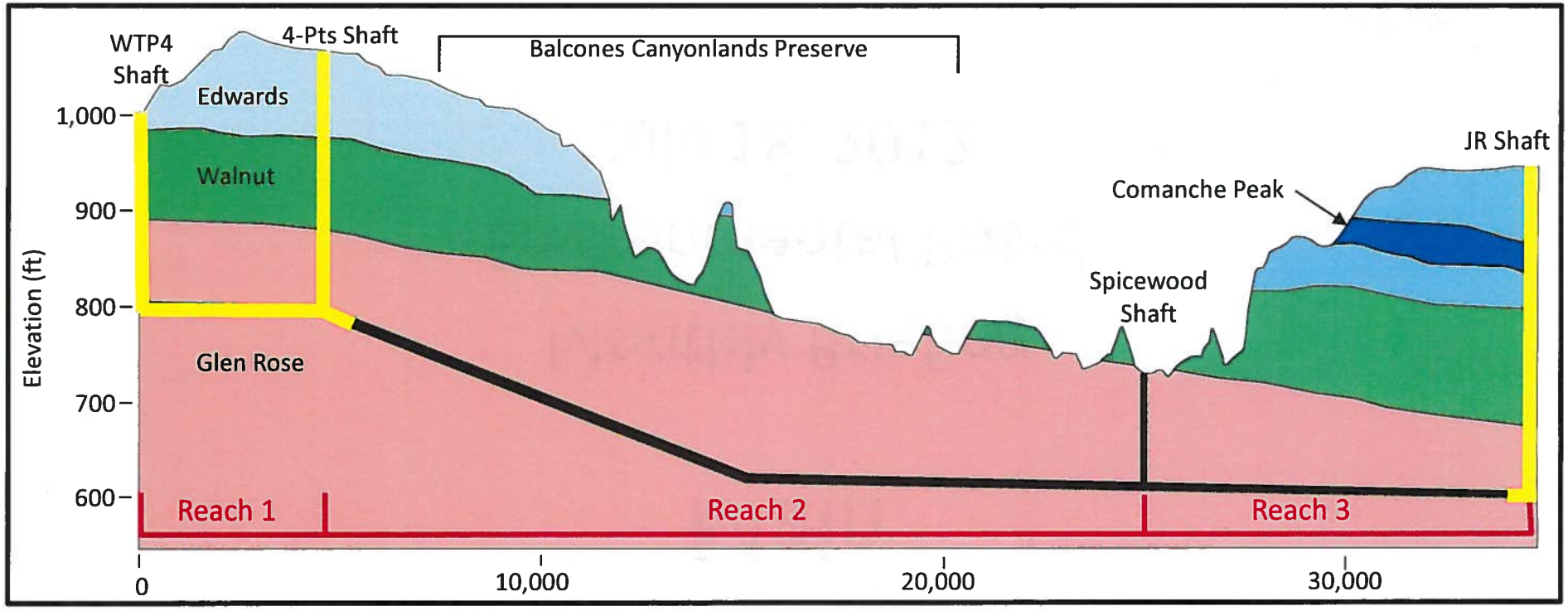
Water Treatment Plant 4

WTP 4

CITY OF AUSTIN
FOUNDED 1839

www.austintexas.gov/water

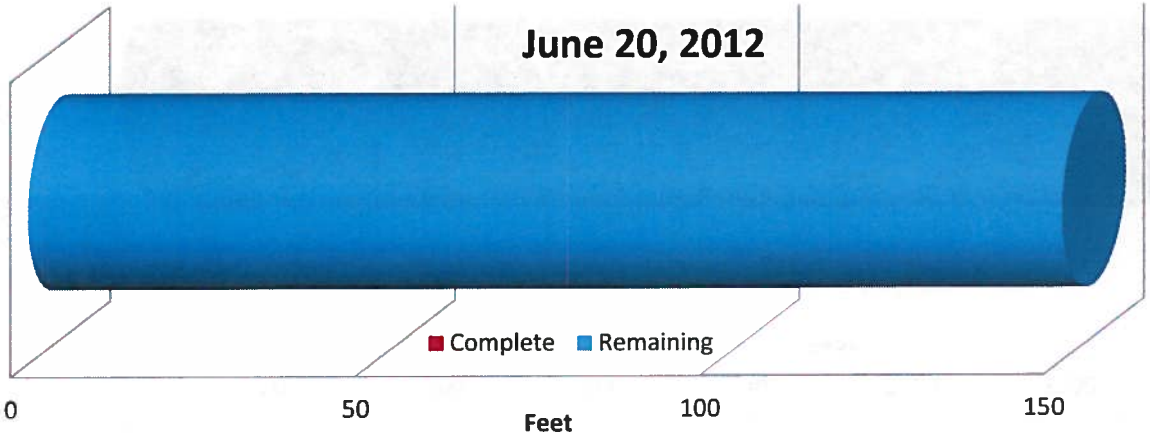
JTM Current Status (yellow) as of 7/17/12

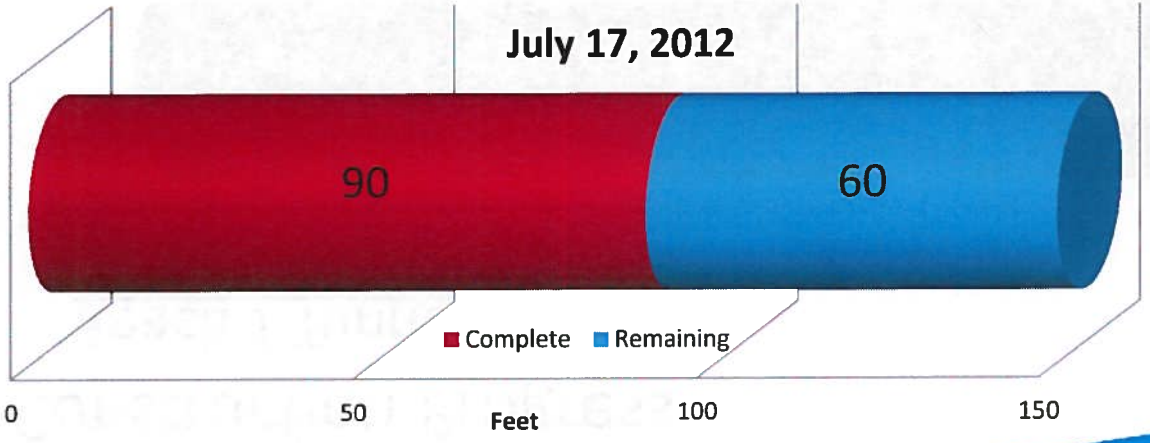


- Reach 1 is complete
- Reach 2 starter tunnel is complete
- Reach 3 starter tunnel is at 90 ft.
- WTP4 Shaft excavation is complete
- JR Shaft excavation is complete

Construction Progress

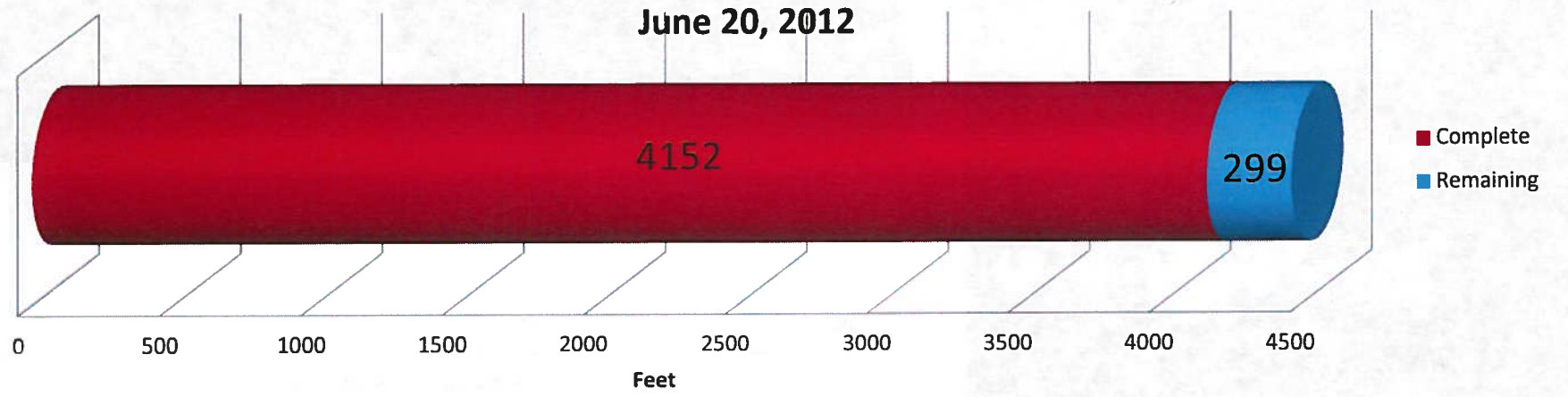
Reach 3 Starter Tunnel

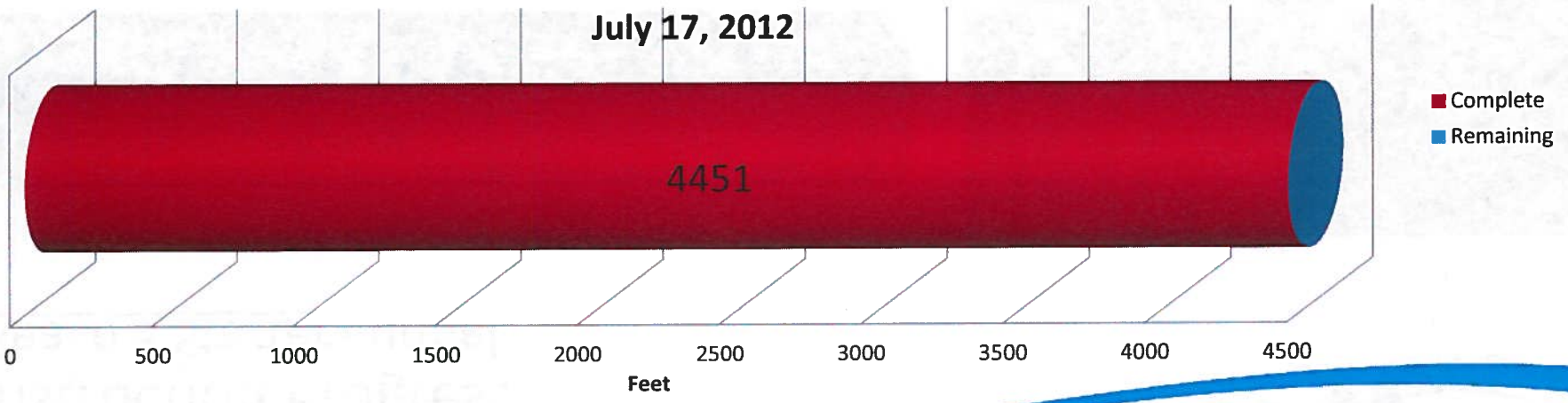




Construction Progress

Reach 1 Tunnel





Austin Water
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Jollyville Transmission Main

Projected Activities

- Reach 3 Starter/Tail Excavation Complete – Early August
- Spicewood Shaft Excavation Start – August
- Reach 2 Tunneling Start – Mid August
- Reach 3 Tunneling Start – Late August

Tunnel and Shaft Inflows

Austin WATER Clearly Reliable

- Reach 1 – no measureable inflow
- Four Points Shaft
  - 3 to 5 gpm
  - All Glenrose Formation
- Jollyville Reservoir Shaft
  - 20 gpm
  - < 10gpm from liner plate and remaining from Glenrose Formation

Austin WATER
Clearly Reliable

Environmental

Update on post rain event inspections from week of 7/11/12 to be provided at board meeting.

Austin WATER
Clearly Reliable

Questions?

info@wtpfour.com

http://austingo.austintexas.gov/department/water

Water Treatment Plant 4

WTP 4

CITY OF AUSTIN
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Agenda item 5a

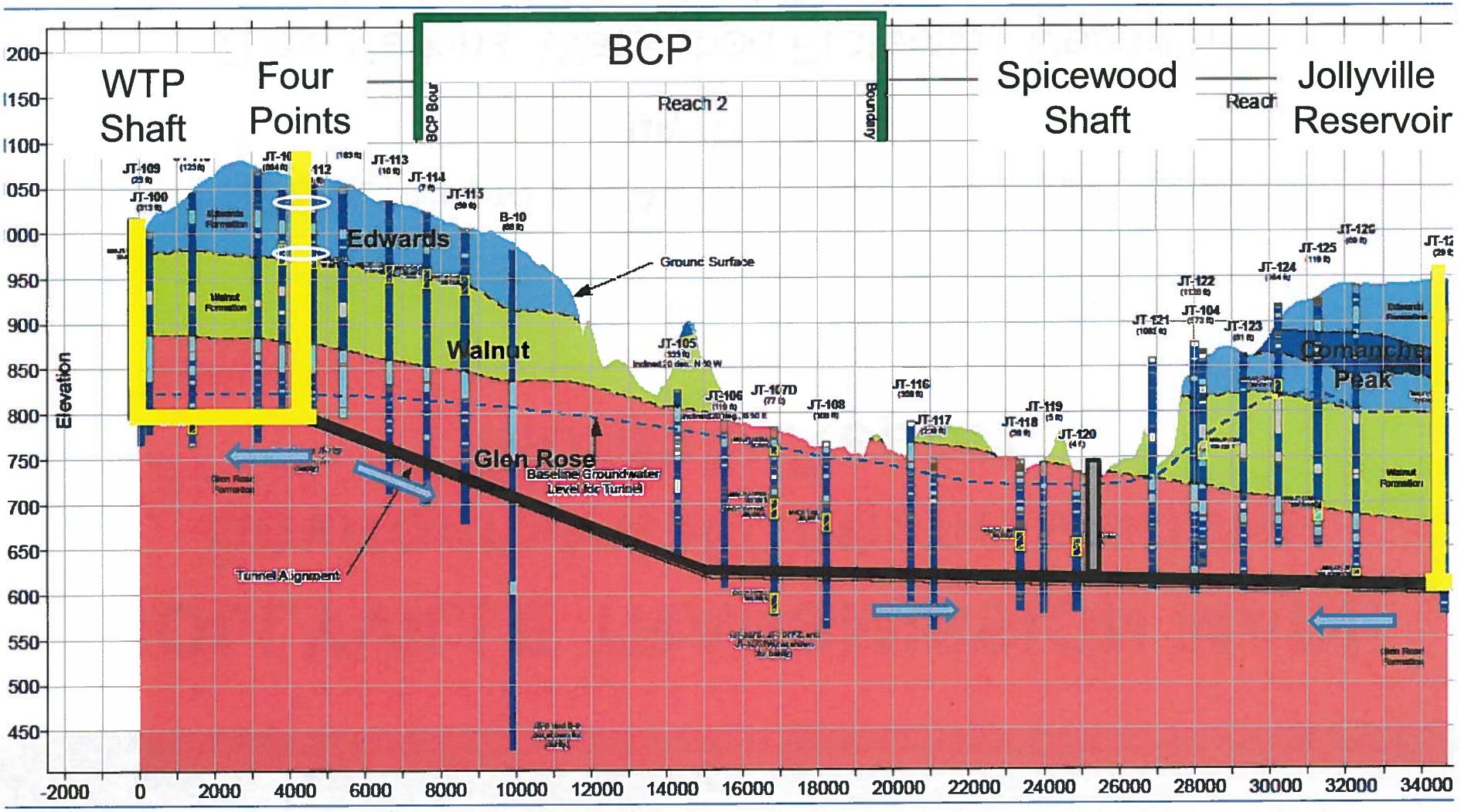
JOLLYVILLE TRANSMISSION MAIN: Environmental Commissioning Monthly Report

Presented to the Austin Environmental Board
July 18, 2012

Thais Perkins, Watershed Protection Department
David Johns, Watershed Protection Department

Jollyville Transmission Main Project

= progress



Environmental Commissioning Activities - JVTM

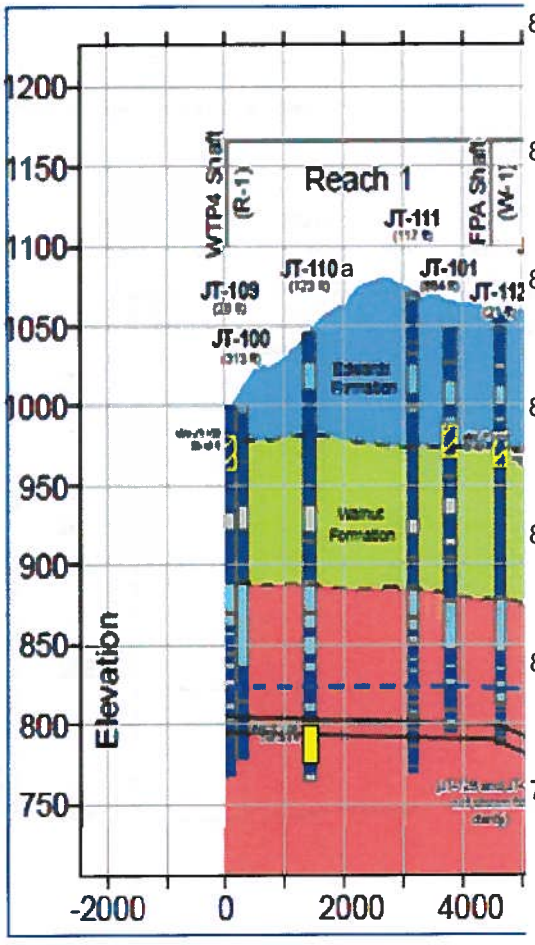
- Monthly shaft site (surface) visits concurrent with plant site visits
- Biweekly meetings of the Environmental Commissioning Coordination Group (ECCG) to resolve possible issues
- Weekly interior shaft/tunnel visits currently on hold pending completion of city safety review.
- Environmental Monitoring
  - *Continued sampling for age dating of deep vs. shallow groundwater systems*
  - *Installed transducers (TROLLs) at Spicewood shaft in JT-120, JT-130, and JT118 to more closely watch groundwater levels through excavation*

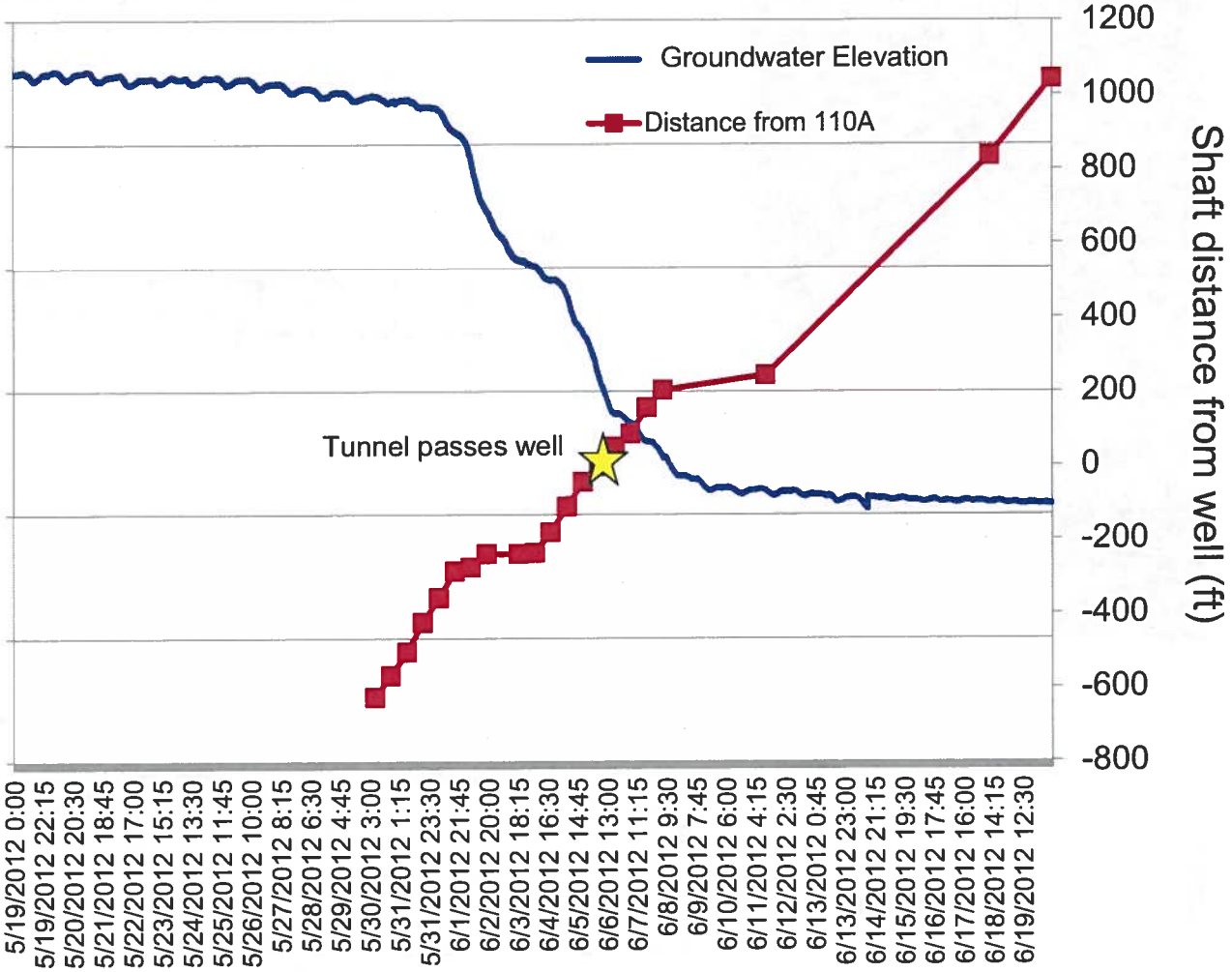
Environmental Commissioning Cost Summary

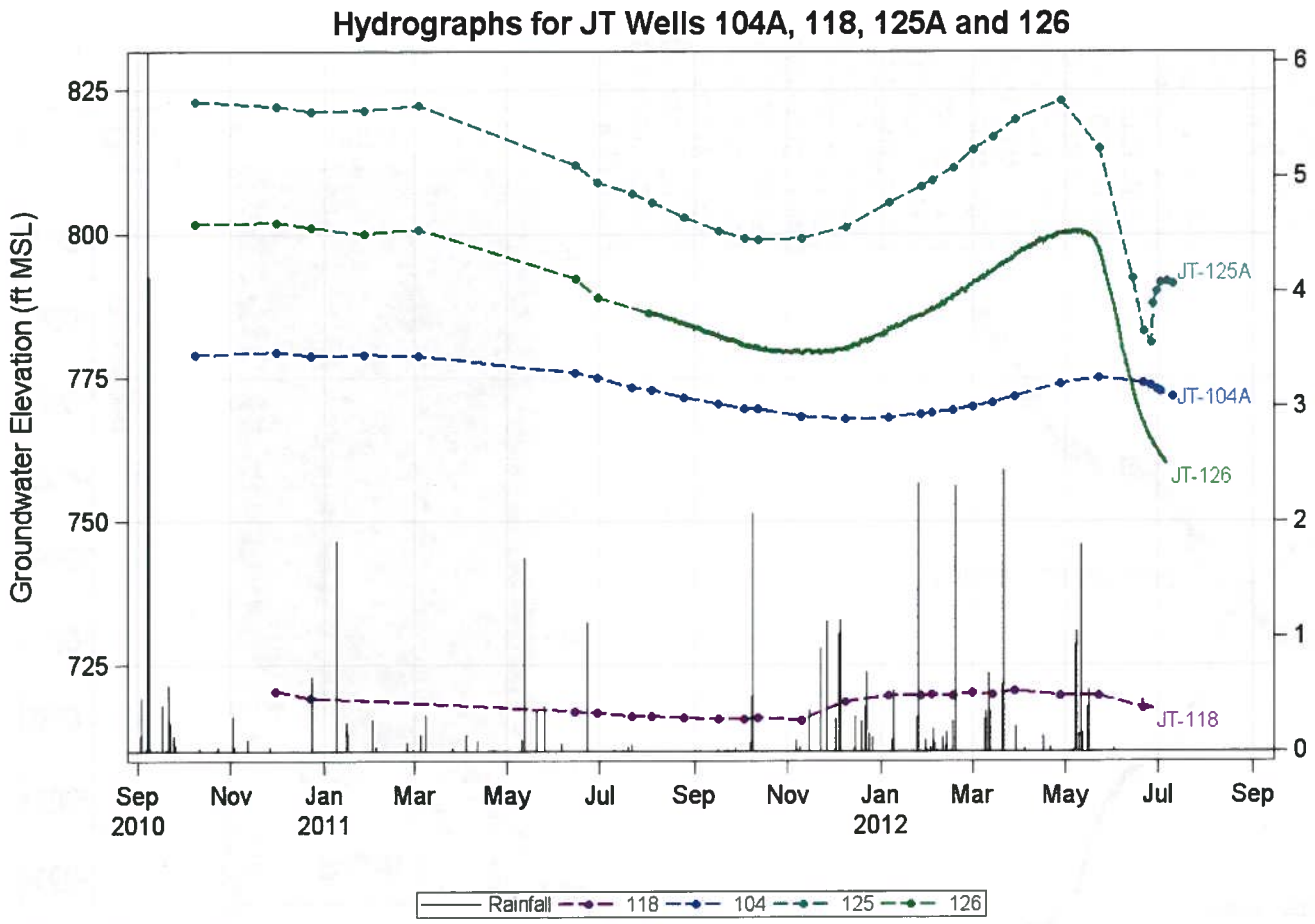
Initial INTERA Contract Amount	$	1,713,814
Total Amount Billed to Date (work from May 2012)	$	1,285,739
Total Remaining	**$**	**428,075**

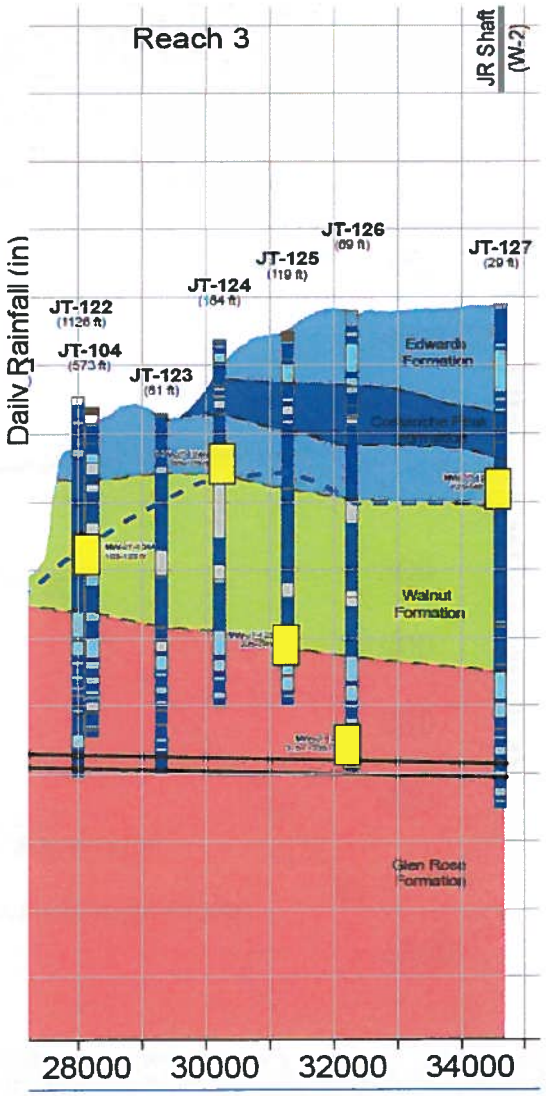
(change of $12,942.01 from last month)

110A Well


Reach 1
WTP4 Shaft
(R-1)
FPA Shaft
(W-1)
JT-111
JT-110a
JT-101
JT-109
JT-112
JT-100
Edwards Formation
Walnut Formation
Elevation
1200
1150
1100
1050
1000
950
900
850
800
750
-2000
0
2000
4000


Groundwater Elevation
Distance from 110A
Tunnel passes well
Shaft distance from well (ft)
825
820
815
810
805
800
795
1200
1000
800
600
400
200
0
-200
-400
-600
-800
5/19/2012 0:00
5/19/2012 22:15
5/20/2012 20:30
5/21/2012 18:45
5/22/2012 17:00
5/23/2012 15:15
5/24/2012 13:30
5/25/2012 11:45
5/26/2012 10:00
5/27/2012 8:15
5/28/2012 6:30
5/29/2012 4:45
5/30/2012 3:00
5/31/2012 1:15
5/31/2012 23:30
6/1/2012 21:45
6/2/2012 20:00
6/3/2012 18:15
6/4/2012 16:30
6/5/2012 14:45
6/6/2012 13:00
6/7/2012 11:15
6/8/2012 9:30
6/9/2012 7:45
6/10/2012 6:00
6/11/2012 4:15
6/12/2012 2:30
6/13/2012 0:45
6/13/2012 23:00
6/14/2012 21:15
6/15/2012 19:30
6/16/2012 17:45
6/17/2012 16:00
6/18/2012 14:15
6/19/2012 12:30

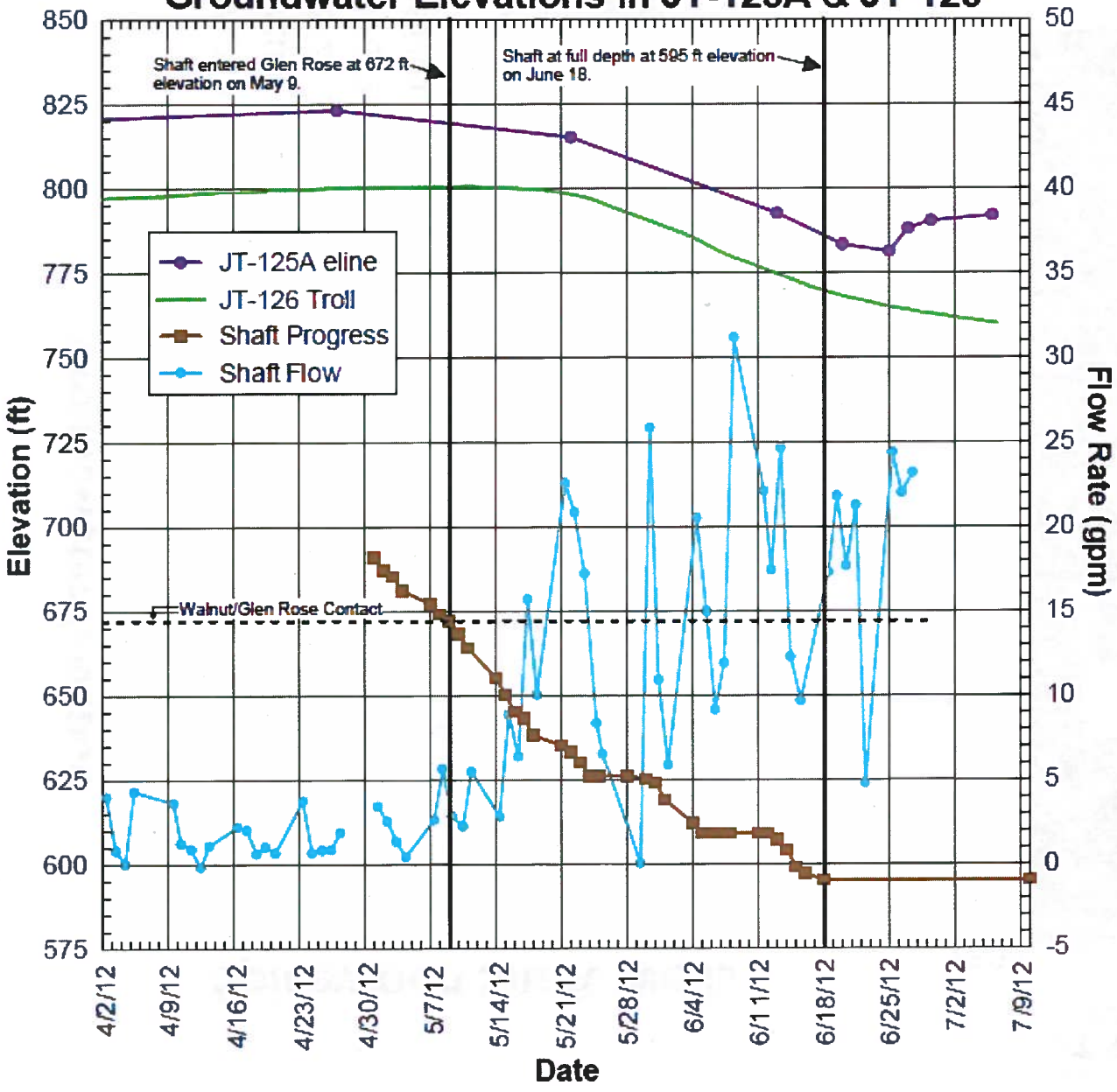




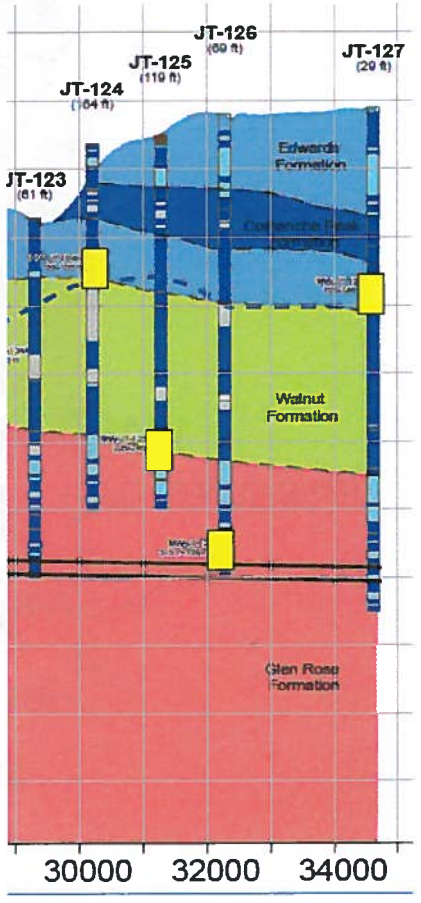
- JT-126 is located approximately 2330 ft from the JR Shaft.
- JT-125A is located approximately 3350 ft from the JR Shaft.
- Both wells have similar trends until 6/25

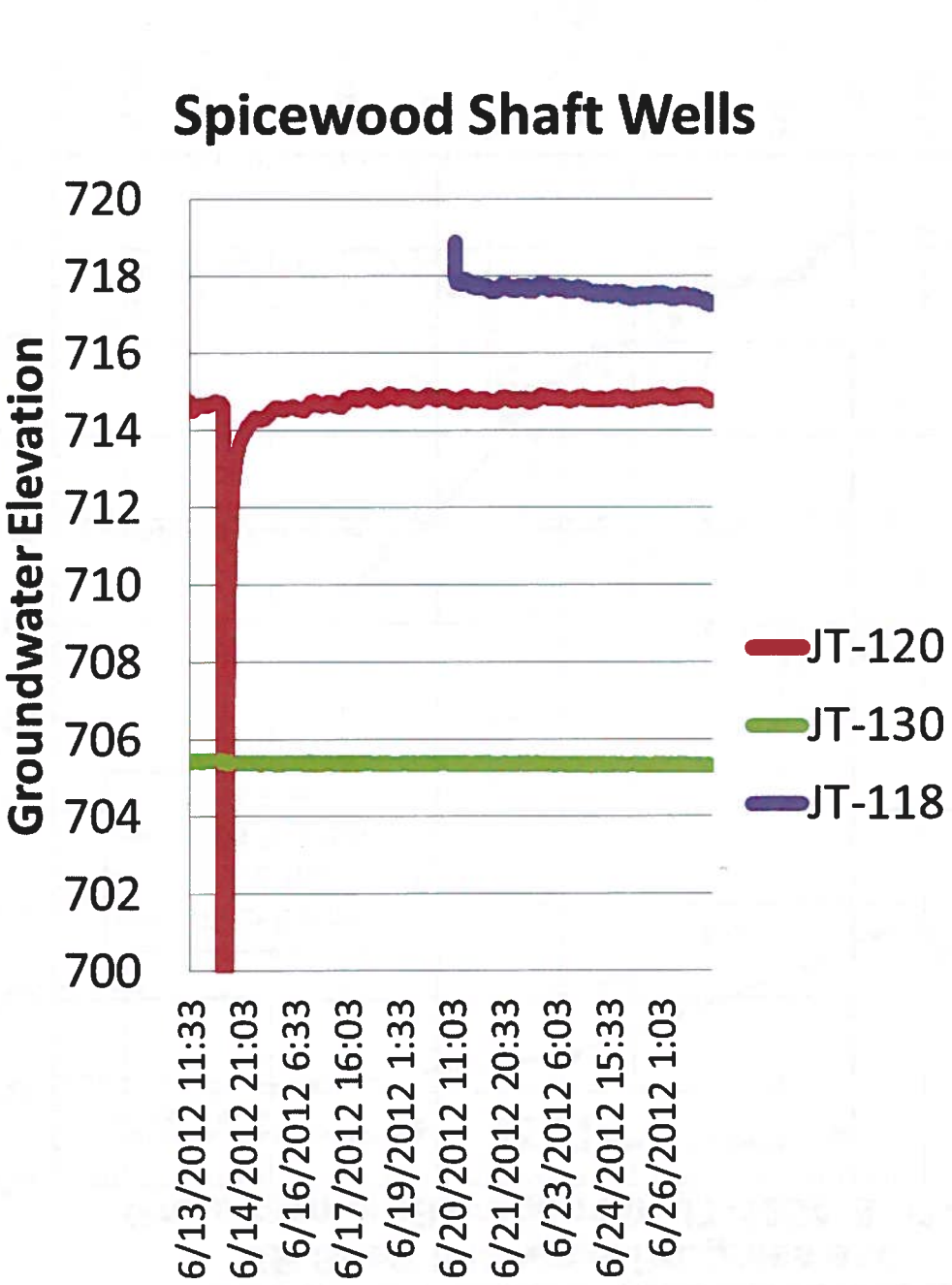
PRELIMINARY DATA PLOT (07/06/12)

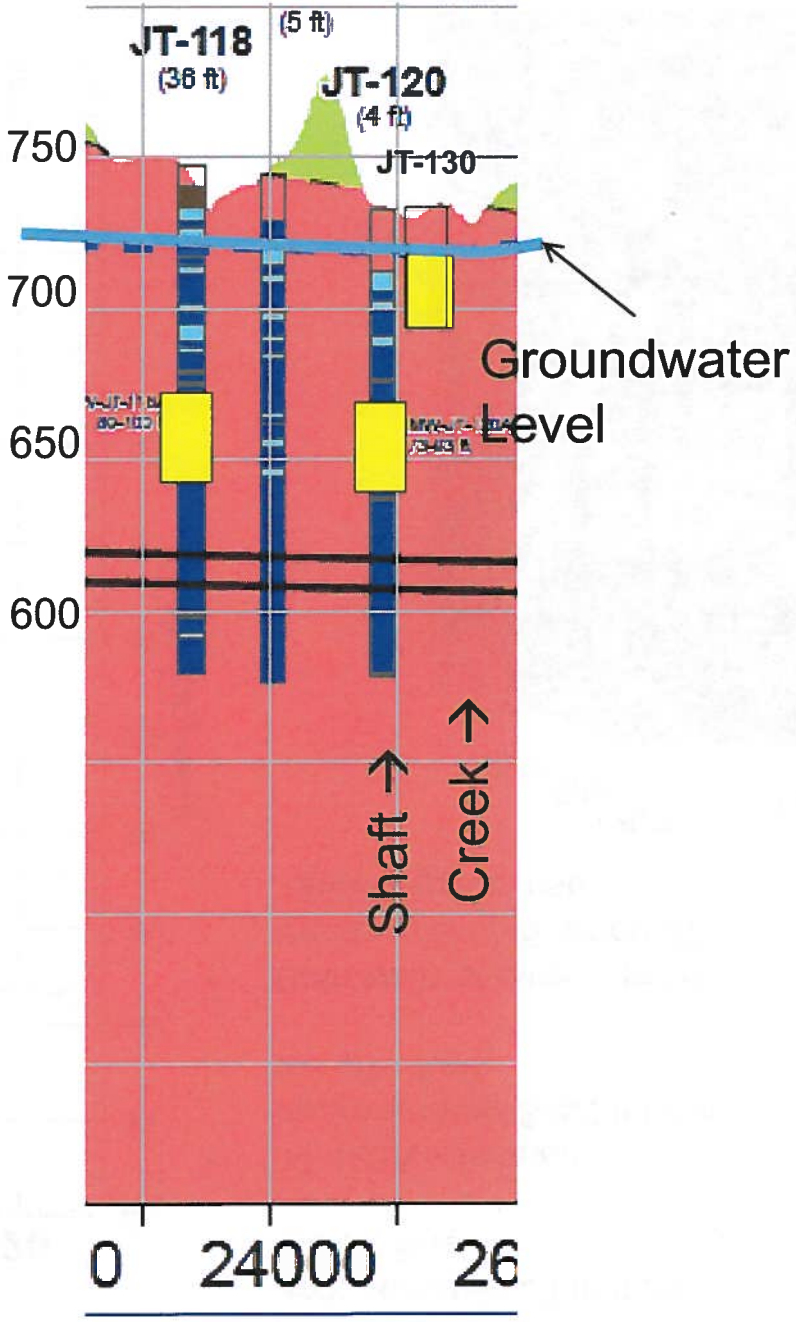
JR Shaft Inflows & Progress and Groundwater Elevations in JT-125A & JT-126

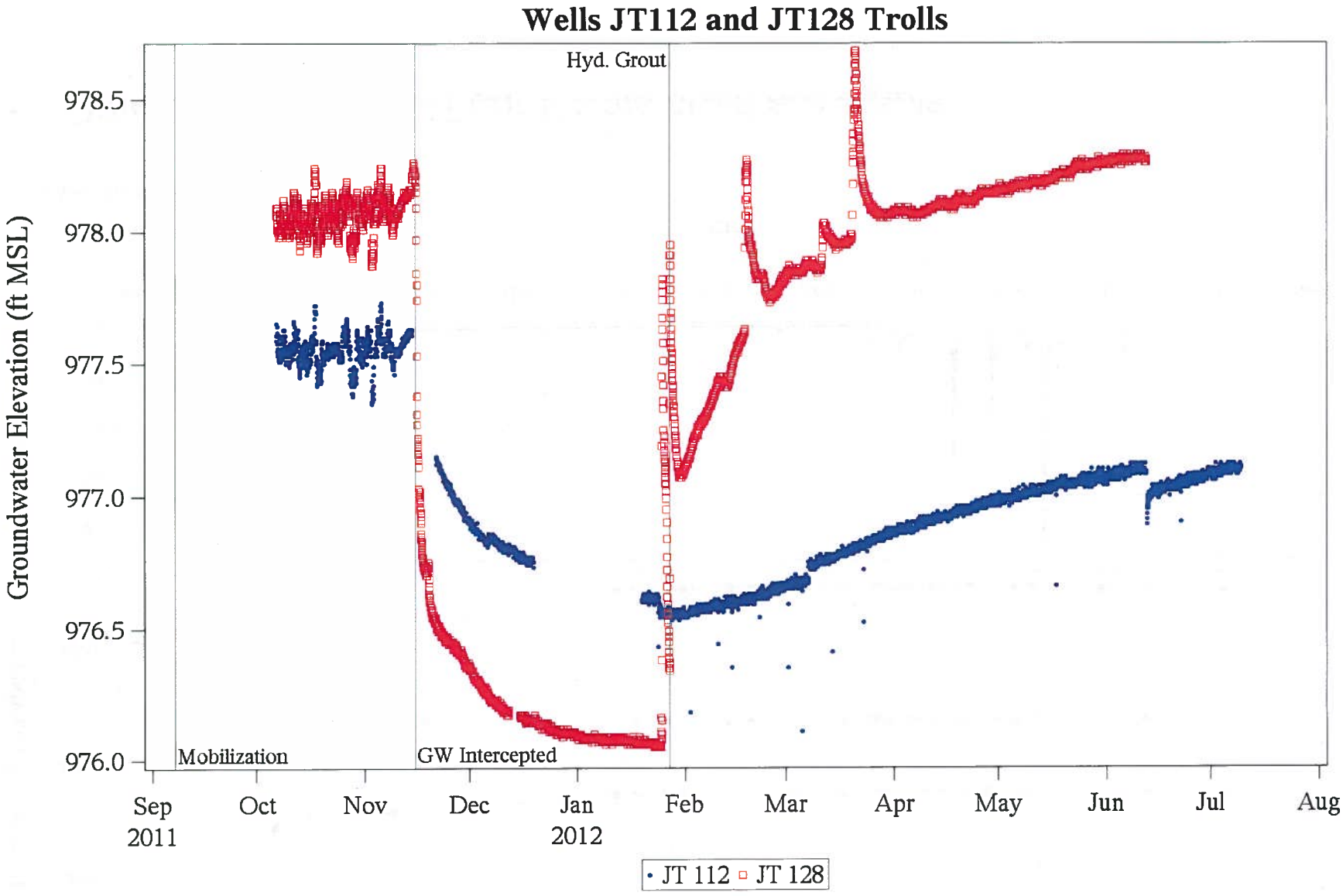


- JT-126 is located approximately 2330 ft from the JR Shaft.
- JT-125A is located approximately 3350 ft from the JR Shaft.
- Both wells showed similar trends until 6/25, when JT-125A began to rise

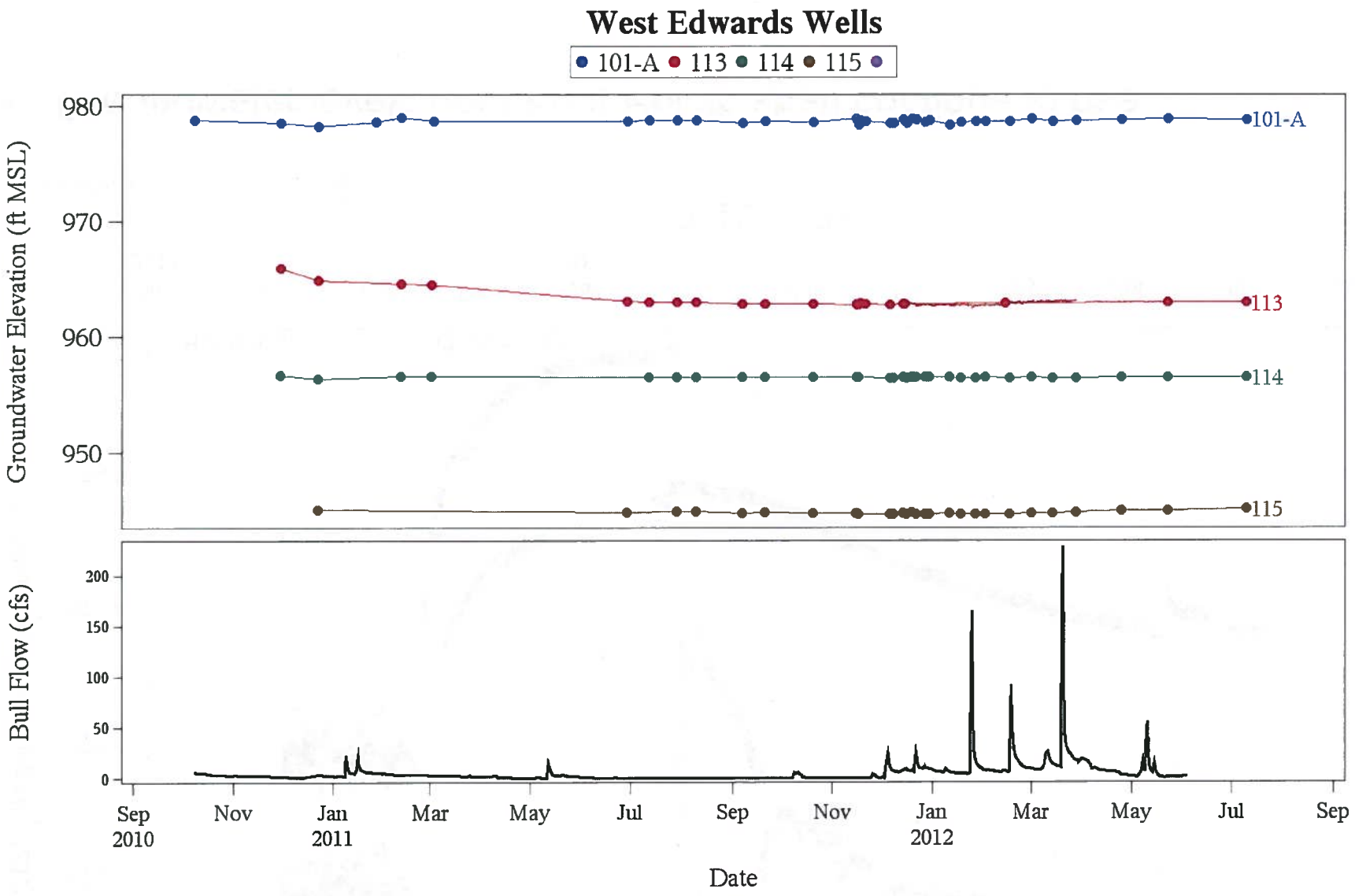



Spicewood Shaft Wells
Groundwater Elevation
720
718
716
714
712
710
708
706
704
702
700
6/13/2012 11:33
6/14/2012 21:03
6/16/2012 6:33
6/17/2012 16:03
6/19/2012 1:33
6/20/2012 11:03
6/21/2012 20:33
6/23/2012 6:03
6/24/2012 15:33
6/26/2012 1:03
JT-120
JT-130
JT-118


JT-118
(36 ft)
(5 ft)
JT-120
(4 ft)
JT-130
750
700
650
600
Groundwater Level
Shaft
Creek
0
24000
26



- Groundwater levels near Four Points shaft continue to rise



City of Austin DRAFT: QA/QC review pending

- Other wells near the Four Points shaft are stable

Preliminary Age Dating Results

TBA: preliminary results of age dating and overview of analytical tools including ions and tritium. Approaches include traditional multivariate and bivariate analysis that also incorporates lessons learned from the Barton Springs segment.

Environmental Monitoring Update – Surface flow

Lanier Spring 7/9/12

- All springs and stream reaches flowing after drying up for short period of time
- Water quality parameters within expected ranges
- Nondetects for indicators of mining, vehicular operation, and drilling (TPH, Cu, Cr, Zn)
- Nondetects for di-n-butyl grout compounds in JT-112, Gaas spring

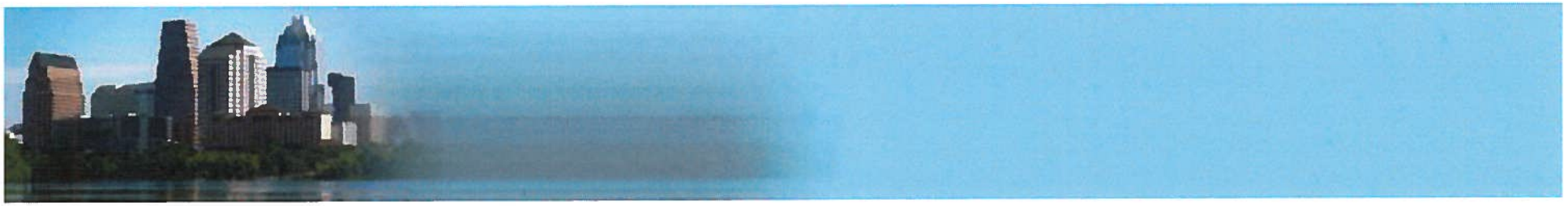
Jollyville Plateau Salamander Monitoring

Site	Date of Last Count	Count #	Historical Average (& last four counts)
Lanier	Jan 3, 2012	85	65 (56,48,59,85)
Franklin/Pit	May 18, 2012	100	78 (73,87,39,100)
Tanglewood	May 16, 2012	3	8 (0,0,0,3)
Lower Ribelin	Jan 6, 2012	42	42 (53,176,43,42)
Upper Ribelin	May 23, 2011	75	64 (123,74,67, 75)
Trib 4 @ Spicewood	July 6, 2012	2	10 (20, 9, 2)

-- provided by Nathan Bendik, Salamander Biologist for WPD

JVTM Environmental Monitoring Summary (cont.)

Trigger	Range	Recent Occurrences
TROLL Alarms	Outside of range of historical Variability	None
Tunnel Inflow Triggers	**Baseline water inflow triggers:** 50 gpm over 10 feet of tunnel length 200 gpm over 500 feet of tunnel length 400 gpm over a single tunnel reach (1, 2, or 3)	No measurable inflow, very dry
	Sensitive area triggers: 25 gpm over 10 ft of tunnel length 100 gpm over 500 ft of tunnel length	No tunneling in sensitive areas
Spring/Streamflow Triggers	Relative to one another; paired comparison analysis	All surface sites responding consistently with rainfall and general trends (increase after rain events and recent decrease)



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